The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A heat treatment method comprising the steps of:

holding a treatment substrate in a processing chamber;

heating the treatment substrate by irradiating it with a radiation from a lamp light source which is held for 0.1 to 20 seconds wherein a temperature rise rate of the treatment substrate is 100 to 200° C per second, while supply of a first inactive gas is kept in the processing chamber so that the first inactive gas passes along an irradiated surface of the treatment substrate and a surface opposite to the irradiated surface of the treatment substrate; and

cooling the treatment substrate wherein a temperature drop rate of the treatment substrate is 50 to 150° C per second, while supply of a second inactive gas is kept in the processing chamber so that the second inactive gas passes along the irradiated surface of the treatment substrate and the surface opposite to the irradiated surface of the treatment substrate,

wherein the radiation from the lamp light source is a pulsed and linear light.

2. (Withdrawn) A heat treatment method comprising the step of:

heating a treatment object by irradiating it through radiation from a lamp light source,

wherein the radiation from said lamp light source is pulsatively repeated several times such that the treatment object holds the temperature to its highest for 0.5 to 5 seconds.

3. (Currently Amended) A heat treatment method comprising the steps of:

holding a treatment substrate in a processing chamber;

heating the treatment substrate by irradiating it with a radiation from a lamp light source which is held for 0.1 to 20 seconds wherein a temperature rise rate of the treatment substrate is 100 to 200° C per second, while supply of a first inactive gas is kept in the processing chamber so that the first inactive gas passes along an irradiated surface of the treatment substrate and a surface opposite to the irradiated surface of the treatment substrate; and

cooling the treatment substrate wherein a temperature drop rate of the treatment substrate is 50 to 150° C per second, while supply of a second inactive gas is kept in the processing chamber so that the second inactive gas passes along the irradiated surface of the treatment substrate and the surface opposite to the irradiated surface of the treatment surface,

wherein the radiation from the lamp light source is a pulsed and linear light, and

wherein the radiation from said lamp light source is repeated several times.

4. (Withdrawn) A heat treatment method comprising the steps of:

holding a treatment object in a processing chamber filled with a coolant; and

heating the treatment object by irradiating it through radiation from a lamp light source,

wherein the radiation from said lamp light source is repeated several times such that the treatment object holds the temperature to its highest for 0.5 to 5 seconds.

5. (Currently Amended) A heat treatment method comprising the steps of:

holding a treatment substrate in a processing chamber;

heating the treatment substrate by irradiating it with a radiation from a lamp light source which is held for 0.1 to 20 seconds wherein a temperature rise rate of the treatment substrate is 100 to 200° C per second, while supply of a first inactive gas is kept in the processing chamber so that the first inactive gas passes along an irradiated

surface of the treatment substrate and a surface opposite to the irradiated surface of the treatment substrate; and

cooling the treatment substrate wherein a temperature drop rate of the treatment substrate is 50 to 150° C per second, while supply of a second inactive gas is kept in the processing chamber so that the second inactive gas passes along the irradiated surface of the treatment substrate and the surface opposite to the irradiated surface of the treatment substrate,

wherein the amount of supply of the second inactive gas during cooling is larger than the amount of supply of the first inactive gas during heating, and

wherein the radiation from the lamp light source is a pulsed and linear light.

6. (Withdrawn) A heat treatment method comprising the steps of:

holding a treatment object in a processing chamber filled with a coolant; and

heating the treatment object by irradiating it through radiation from a lamp light source,

wherein said lamp light source is turned on while an amount of supply of the coolant is reduced,

wherein said lamp light source is turned off while a treatment of increasing the amount of supply of the coolant as one cycle is repeated several times, after the treatment object holds the temperature to its highest for 0.5 to 5 seconds.

7. (Original) A heat treatment method according to claim 1, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

8. (Withdrawn) A heat treatment method according to claim 2, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal

halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

9. (Original) A heat treatment method according to claim 3, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

10. (Withdrawn) A heat treatment method according to claim 4, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

11. (Original) A heat treatment method according to claim 5, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

12. (Withdrawn) A heat treatment method according to claim 6, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

13. (Withdrawn) A heat treatment method comprising the step of:

heating a treatment object having a semiconductor film by irradiating it through radiation from a lamp light source,

wherein the radiation from said lamp light source lasts 0.1 to 20 seconds at a time,

wherein the radiation from said lamp light source is repeated several times.

14. (Withdrawn) A heat treatment method comprising the steps of:

holding a treatment object having a semiconductor film in a processing chamber filled with a coolant; and

heating the treatment object by irradiating it through radiation from a lamp light source,

wherein the radiation from said lamp light source is held for 0.1 to 20 seconds at a time,

wherein the radiation from said lamp light source is repeated several times.

15. (Withdrawn) A heat treatment method comprising the steps of:

holding a treatment object having a semiconductor film in a processing chamber filled with a coolant; and

heating the treatment object by irradiating it through radiation from a lamp light source,

wherein said lamp light source is turned on and the radiation from said lamp light source is held for 0.1 to 20 seconds at a time, while an amount of supply of the coolant is reduced,

wherein said lamp light source is turned off while a treatment of increasing the amount of supply of the coolant as one cycle is repeated several times.

16. (Withdrawn) A heat treatment method according to claim 13, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

17. (Withdrawn) A heat treatment method according to claim 14, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

18. (Withdrawn) A heat treatment method according to claim 15, wherein said lamp light source is selected from the group consisting of a halogen lamp, a metal halide lamp, a xenon lamp, a high pressure mercury lamp, a high pressure sodium lamp and an excimer lamp.

19. (Previously Presented) A heat treatment method according to claim 1, wherein each of the first inactive gas and the second inactive gas comprises at least one of nitrogen and helium.

20. (Previously Presented) A heat treatment method according to claim 3, wherein each of the first inactive gas and the second inactive gas comprises at least one of nitrogen and helium.

21. (Previously Presented) A heat treatment method according to claim 5, wherein each of the first inactive gas and the second inactive gas comprises at least one of nitrogen and helium.